

REMARKS:

This is a full and complete response to the Office action dated December 4, 2009. Favorable reconsideration of the claims is respectfully requested.

REGARDING THE CLAIMS:

Claims 9-13, 17, 18 and 20-29 remain pending in the application, as claims 1-8, 14-16 and 19 have been previously cancelled without prejudice. No amendments are made with this reply. No new matter has been added.

IN RESPONSE TO THE OFFICE ACTION:

In the Office action, claims 9-13, 17, 18, 20-29 stand rejected under 35 USC 103(a) as being unpatentable over Performance (Performance, XPORT Xcess Cargo Box, 5/4/2003) in view of NPL prior art cargo container strut submitted by Applicant 3/20/2009 (hereinafter "Dual Force Strut") further in view of Jones, US 2,656,563. Claims 9-13, 17, 18, 20-29 stand rejected under 35 USC §103(a) as being unpatentable over Uchiumi, JP 11291832A, in view of Parker, US 3640,423, further in view of Dual Force Strut, further in view of Jones, US 2,656,563.

REJECTION UNDER 35 U.S.C. § 103

Examiner contends that XPORT performance cargo box (hereinafter "XPORT") and Uchiumi disclose spring-biased struts configured to exclusively deliver an assisting expansion force between the top and bottom portions of a cargo box. Examiner concedes that XPORT and Uchiumi fail to disclose a strut comprising a cam surface, but however, asserts that the Dual Force Strut submitted by Applicants utilizes a cam surface and a force communication point. Examiner points out on p. 3 of the Office action that the force communication point lies on one side of a line parallel to the direction of the spring force in an open configuration (Figure 1c) and on an opposite side in a closed configuration (Figure 3c).

The Examiner further asserts that Jones also teaches a cam surface and a force communication point which stays exclusively on one side of a line oriented parallel to the

effective force of a biasing spring. Examiner also asserts that Jones teaches that the shape of the cam surface and the spring force can be varied to alter the counterbalancing effect of the strut (referring to col. 4, lines 48-53).

Examiner contends that it would be obvious for one of skill in the art to:

- (1) Substitute the XPORT and Uchiumi spring biased struts with a strut having a cam surface such as the Dual Force Strut, as a mere substitution of known vehicle-mounted cargo container struts; and
- (2) Modify the strut arm to have a cam surface and spring surface like Jones (18 and 17 in Jones) to provide a single sided force communication point therefore providing an expansion assisting force to help open the top portion, reasoning that Jones teaches ways to “alter the counterbalancing of a strut.”

Applicants submit that the Examiner’s proposed substitution and modification have no basis in the cited art or the state of the art. Moreover, although the Examiner provided reasoning for his proposed modification, such reasoning does not in fact support the Examiner’s position. As articulated reasoning is required to support a legal conclusion of obviousness and the reasoning proffered by the Examiner fails, the above rejection cannot be sustained.

Even if Examiner did find certain elements in the cited references, Applicants note that *KSR*¹ is clear that that “**a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.**” *KSR*, at 1741.

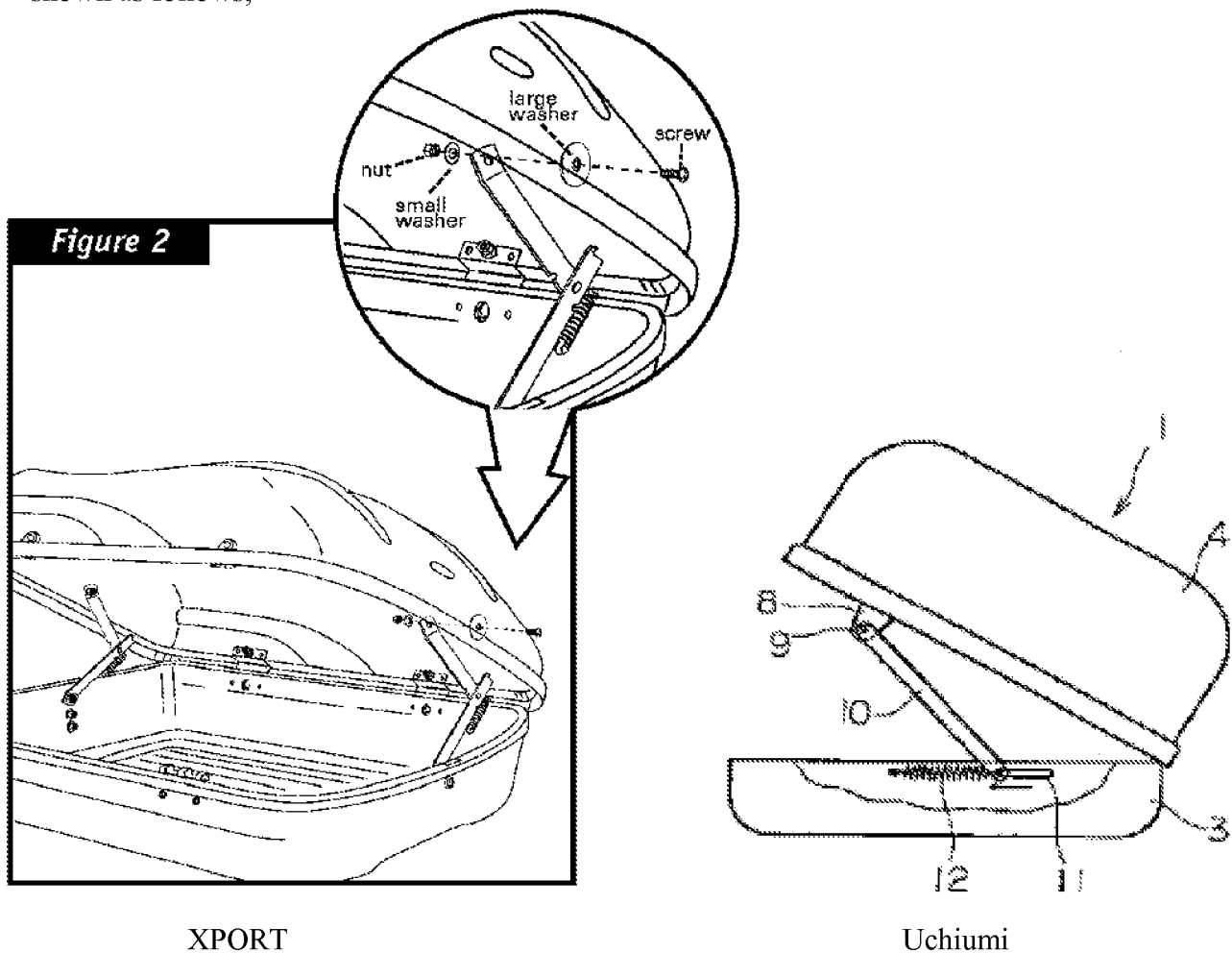
Accordingly, Applicants submit that in fact the Examiner is engaged in impermissible hindsight reconstruction, re-ordering the devices in the cited art based solely on teachings found in the present application. In *KSR*, the Court reiterated that “[a] factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon ex post reasoning.” *KSR*, at 1742. In its admonition against impermissible hindsight bias, the Court cited *Graham*,² wherein in said decision, the Court had warned “against a ‘**temptation to read into the prior art the teachings of the invention in issue**’ and instruct[ed] the courts to ‘guard against slipping into the use of hindsight.’ ” *KSR*, at 1742.

¹ *KSR Int’l v. Teleflex Inc.*, 550 U.S. 398, 127 S.Ct. 1727, 82 USPQ2d 1385, 1397 (2007).

² *Graham v. John Deere Col. Of Kansas City*, 383 U.S. 1, 86 S. Ct. 684, 15 L.Ed.2d, 545.

(1) Substitution into XPORT and Uchiumi of Dual Force Strut

The primary cited references relied on by Examiner in the Office action include the XPORT and Uchiumi references. These references depict a cargo box with a spring based strut, shown as follows;



While the references do not explicitly state that there is an exclusively expansive assisting force, Examiner asserts it is inherent in the design. Assuming Examiner is correct, it would appear that when the box lids are closed, the spring inside each box provides a biasing force to open the lid until reaching the open positions shown above.

Examiner wishes to substitute the spring biased struts above with the Dual Force Strut Applicants submitted by Applicants in an IDS on March 20, 2009. The Dual Force Strut operates to provide both a (1) close assisting force and an (2) opening assisting force depending

on its configuration within the range of pivotal motion of the strut arm. This can be seen in the Figures as follows, which were provided in the IDS of March 20, 2009:

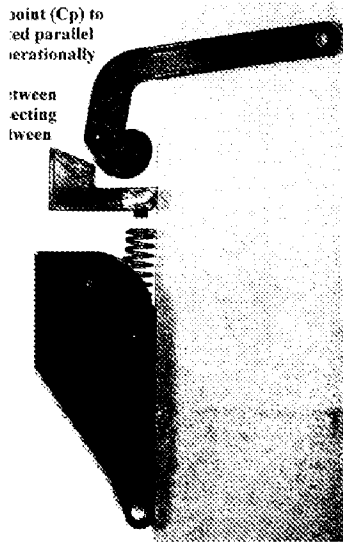


Fig. 1b

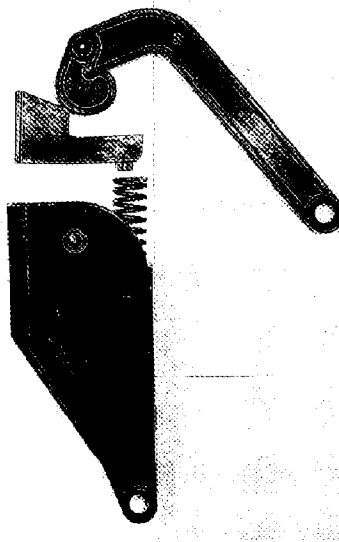


Fig. 2b

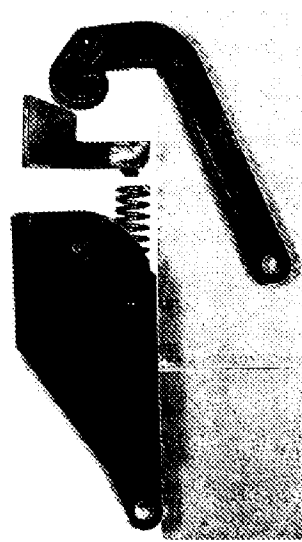


Fig. 3b

As shown above the Dual Force Strut provides an opening assisting force in a range of motion approaching the open configuration (Fig. 1b), and a close assisting force when in a range of motion approaching a closed position (Fig. 3b). A proximate neutral position is shown in Fig. 2b above.

The Dual Force Strut also has a force communication point (Cp) where the cam contacts the lower arm. When the Cp is to the right of a line parallel to the direction of an operationally effective force imposed by the biasing spring between the two arms and intersecting the pivot connection between the two arms, an expansion force is generated. When to the left of this line, a contraction force is generated. A distinct transition regarding the direction of the force (from urged expansion to urged contraction) occurs therebetween.

Accordingly, it can be seen that the Dual Force Strut provides both a closing assisting force and an opening assisting force. As discussed in the present application paragraphs 4 and 5, this causes some negative effects – namely that in the instance of the strut's closing force,

together with the weight of the top of the cargo box, instead of assisting the operator, causes the top to slam shut. Furthermore, when opening a cargo box, the relatively strong forces imposed by two struts on either end of a box can cause the box to open and close in an imbalanced manner. For example one strut would be in a range producing an expanding force while the strut at the opposite end is in a range producing a contracting force. This has the effect of twisting and torquing a cargo box which is made of semi-flexible materials and presents misbehavior or mal-performance of the product.

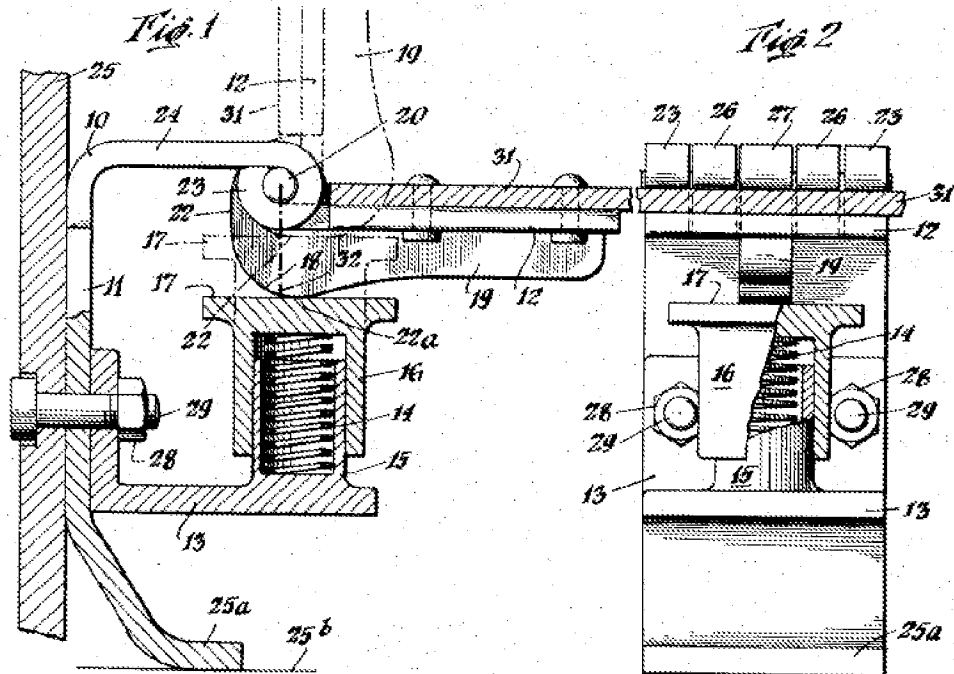
Examiner contends that the XPORT and Uchiumi spring biased struts can be replaced by the Dual Force Strut. The reasoning provided by the Examiner is that this would be a “mere substitution of known vehicle-mounted cargo container struts.” However, in view of the above description of the operation and function of the XPORT and Uchiumi spring based strut versus the Dual Force Strut such reasoning has no basis. Namely, the primary reference spring biased struts function entirely different from the Dual Force Strut. These spring biased struts as indicated by the Examiner provide an exclusively expansion assisting force. On the other hand, the **Dual force strut provides in part of its range a contraction assisting force** – exactly opposite the direction of the XPORT and Uchiumi struts.

Accordingly, the Dual Force Strut is **not** a mere simple substitution for the XPORT and Uchiumi spring struts. Such substitution is contrary to the forces provided by the XPORT and Uchiumi struts and would change the operation of the cargo boxes (e.g., causing torquing and mal-performance). Thus by providing a strut having a contracting force instead of an exclusively expansion assisting force, such substitution would render operation of the XPORT and Uchiumi boxes unsatisfactory for their intended purpose.

Therefore, in view of the above, replacing the XPORT and Uchiumi strut with the Dual Force Strut cannot be considered a mere substitution, as it provides an opposite function of these struts.

(2) Modification of Strut in view of Jones

Examiner additionally wishes to modify the revised XPORT and Uchiumi struts which have been modified by the Dual Force Strut according to the counterbalanced hinge in Jones. Jones discloses a balanced hinge as follows:



Examiner's position is that Jones discloses a force communication point which **remains exclusively on one side of line (32)** parallel to a direction of an operationally effective force imposed by a biasing spring (14) between two arms (12 and 10/11/13/16) and intersecting a pivot connection (20) between the arms.

Examiner posits that such modification would be obvious "given Jones disclosure of ways to alter the counterbalancing effect." Office Action, p. 3. Applicants submit such reasoning is based on a misreading and misapplication of the "counterbalancing effect" of Jones.

As discussed above, the Dual Force Strut has a closing force as well as an expanding force depending on the relative configuration of the strut arms. A reason for this involves the position of the Cp in relation to a line parallel to an operationally effective force which intersects a pivot connection between the arms. In order to produce an opening assisting force, the Cp lies

on one side of a line parallel to an operationally effective force. However, at a specific range of motion, the Cp **crosses this line** to produce the opposite force, for example converting an opening assisting force to a close assisting force.

This is completely different than the Hinge of the Jones reference which only has an expanding assisting force. The Hinge of the Jones reference does not cross a line parallel to the operationally effective force, but instead remains exclusively on one side – thus exclusively producing an expansion assisting force.

Examiner wishes to modify the Dual force Strut in view of Jones so that the Cp remains exclusively on one side of the line, instead of crossing the line, so as to produce only an expansion assisting force. The Examiner relies on the disclosure of a “counterbalancing effect” in Jones as the “rational underpinning” for such a modification. *Office Action*, p. 3, lines 12-14, p. 6-7. However, such counterbalancing has nothing to do with crossing a line to effect a change in an expanding or contracting force in the hinge.

Counterbalancing effect of Jones

Contrary to assertions by the Examiner, the counterbalancing effect of Jones has nothing to do with switching between a closing assisting force and an opening assisting force. Instead, the counterbalancing effect is directed **only** to adjusting the strength of the expanding force. As stated in Jones, col. 4, lines 48-53:

It will be understood that if desired, the **special biasing effects described above may be dispensed with, or may be made more pronounced**, as by curving the cam surface 18 inward toward the hinge axis at the desired localities for releasable arrest of the hinged structure.

As indicated in the above portion the “biasing effects” may be dispensed with or made more pronounced by altering the cam surface 18. This passage has only to do with adjusting the strength or relative force of an expanding assisting force and has **nothing** to do with crossing or not crossing a line parallel of an operationally effective force to switch between an expanding or contracting force. Accordingly, Examiner has no basis to rely on his assertion that Jones discloses “ways to alter the counterbalancing effect” for modification of the Dual Force Strut.

Therefore, the modification suggested by Examiner would render the Dual Force Strut unsatisfactory for its intended purpose – that of providing a closing and opening assisting force depending its configuration within the permitted range of motion. Accordingly, the modification suggested by Examiner is based solely on teachings from the present application and is therefore impermissible hindsight bias.

Essentially, the Examiner's position involves two remarkably tenuous steps that are based on unsupportable reasoning. First, one of skill would not substitute a spring based strut having an exclusively expansion assisting strut with a strut having a closing assisting force, such as the Dual Force strut. Such cannot be considered a mere substitution. Further, after making such a leap in logic, the Jones reference is presented by Examiner. However, one of skill in the art would not modify a dual force strut with a strut having only an expansion assisting force, as it has a completely separate function. This is evidenced by the fact that Examiner can point to no passage of Jones for this modification other than that for "counterbalancing" - which as discussed above does not stand for the proposition for which it is relied upon.

Accordingly, the long and winding road taken in the Office action to substitute and modify references to arrive at the combination set out in the rejection above is without foundation, and based solely on teachings found in the present application.

Therefore, for at least these reasons outlined above the above mentioned rejection should be withdrawn,

(3) Further Remarks on Jones

Those of ordinary skill in the art would not consider employing the counterbalanced hinge of Jones for use in Cargo boxes. As discussed above, XPORT and Uchiumi disclose the use of struts which are used for opening and closing a cargo box. Further, the Dual Force Strut provides an expansion force as well as a contraction force. On the other hand, the Jones reference is directed to devices for counterbalancing the weight of a movable hinged element "**of substantial weight and is horizontally hinged.**" *Jones column 1, lines 5-10* (emphasis added).

Applicants note that the device of Jones is intended primarily as an aid to protect operators from heavy covers or trap doors. *Jones, column 1, lines 10-50*. As indicated by Jones,

typical applications will involve “horizontally disposed, vertically movable members” such as “hatch covers, trap doors and covers for various types of cabinets.” *Jones, column 1, lines 10-14*. The prime example according to Jones would be their use in refrigerator cars.

As indicated in Jones, in refrigerator cars, there “are floor racks or pallets used to provide a raised platform upon which materials may be stored.” *Jones, column 1, lines 17-22*. Furthermore, when such racks are not in use, “the racks may be pivoted upward...in cars heretofore used, that the outer ends of the racks be hooked to the vertical wall to prevent them from dropping down.” *Jones, column 1, lines 22-29*. The problem which **Jones** wishes to solve is then revealed:

The **racks used in refrigerator cars are of heavy construction** to support the weight of the articles carried on them, and are, therefore, of substantial weight so that **if they are permitted to drop in a free fall**, when unhooked from the walls, **considerable damage may be done** to them or to the insulated floor against which they strike. There is also a serious and constant danger of injury to personnel required to work in the car and to raise and lower these floor racks. *Jones, column 1, lines 29-39*.

Accordingly, with respect to the purpose of the device of Jones:

It will be appreciated that in most arrangements in which a movable member is horizontally hinged, it **is desirable to prevent the rapid descent** of the member from the vertical to the horizontal position, this problem being singularly acute in the case of floor racks in refrigerator cars. Therefore, it is an important object of this invention to provide a **new and improved device which will retard the movement of the hinged moveable member** as the outer end moves downward into the horizontal position. *Jones, column 1, lines 29-36*.

Thus, in view of the above it can be seen that the hinged structures of Jones are (1) used for floor racks and planar platforms in refrigerator cars, (2) intended for platform members which are of heavy construction, (3) intended to retard the movement of the hinged member from moving downward.

Regarding (1) above, it should be noted that the hinged structures of Jones are strikingly different from the cargo boxes of the XPORT and Uchiumi reference. Cargo boxes such as that shown in XPORT and Uchiumi are intended when shut to be fully enclosed structures. Furthermore, when users wish to open them, they generally raise the top lid. The struts disclosed

in XPORT and Uchiumi are intended to aid the process of opening the lid. On the other hand, the hinged structures of Jones are significantly dissimilar. They are singular flat planar platform members generally employed in refrigerator cars. These are raised against a wall when not in use or when the flooring is to be cleaned. *Jones, col. 1, line 5 to col. 2, line 2.* The counterbalancing effect is merely to prevent rapid descent of the platforms. The platform or covers of Jones differ radically in their structure and purpose from cargo boxes.

Furthermore, with respect to (2) as noted above, Jones was directed to platform members of **heavy construction**. *Jones, column 1, lines 29-36.* The danger was a **free fall drop, which could cause considerable damage to person or property**. *Jones, column 1, lines 29-39.* Accordingly, the retarding force of Jones is primarily to prevent a rapid and dangerous fall by a heavy platform. *Jones, column 1, lines 29-36.* This is radically different from cargo boxes, where the lids are of comparatively flimsy construction (semi-flexible), and pose no such dangers. *Application, paragraph 5.* Furthermore as they are not opened and pulled outward down toward a user, there is no danger of harm as there is with the platforms of Jones. Cargo boxes are merely opened and closed for placing objects inside. Accordingly one of ordinary skill in the art, seeing the flimsy construction of cargo lids and the heavy construction of the platforms of **Jones**, would not consider Cargo boxes to be in need of such retardation.

Additionally, with respect to (3), the Jones reference discloses that its hinged device is designed to retard downward movement of a platform. However, completely contrary to this, and as noted above, the Dual Force Strut is designed in part **to have a closing-assist force**. Therefore, **the Jones reference teaches against one of the primary objectives of the Dual Force Strut**. Thus, one of skill in the art, in considering the close assisting force in Dual Force Strut, would not therefore use the retardation device of Jones.

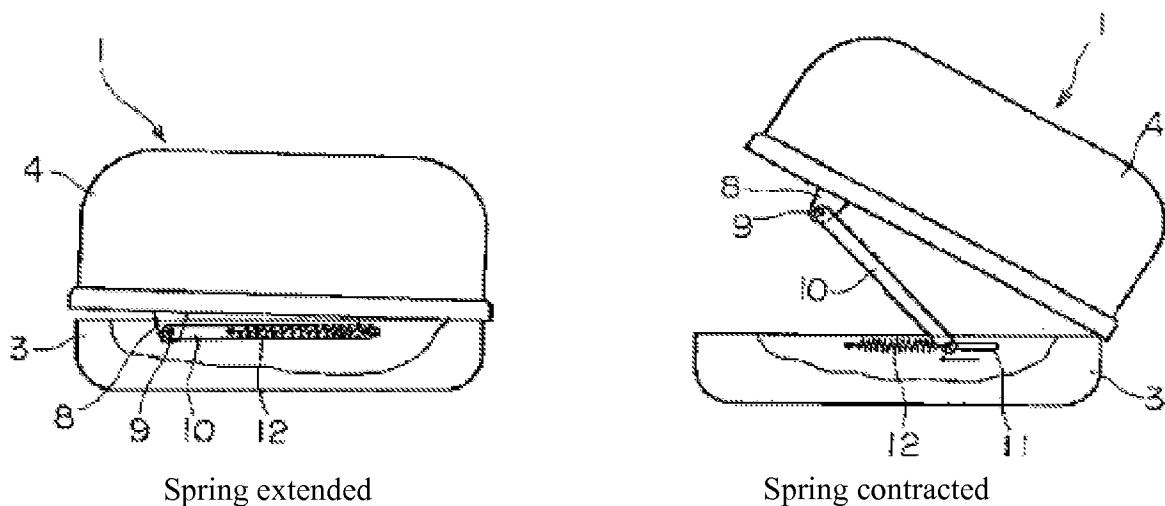
Applicants respectfully submit that such modification of the XPORT, Uchiumi and dual force struts in the Office Action is merely based on impermissible hindsight reconstruction. The combination would not be considered by one of ordinary skill in the art in view of the cited references and their teachings, the state of the art, or “common sense.” Accordingly, Applicants respectfully submit that no prima facie case of obviousness can be established.

(4) Remarks Regarding Claim 18

Dependent claim 18 recites that the strut exerted force is of “substantially zero magnitude when said lid portion (30) is in said closed configuration.” Applicants submit that the cited references do not disclose, teach or suggest an expansive force having essentially zero magnitude when the cargo lid is closed.

Instead, the references disclose precisely the opposite case – that the magnitude increases when the cargo box lid is closed. Such magnitude increase is inherent in the design of the two primary references cited by the Examiner.

Referring to the XPORT and Uchiumi figures shown on p. 12 above, it can be seen that the strut springs will be extended when the cargo box is closed and will be contracted when the box lid is in the open position. When the springs of the struts are extended, this will impose a force on the cargo lid box to assist pulling it to the open position. However, when in the open position, the spring is contracted and so will accordingly transmit a lesser force. This can be seen more explicitly below by comparing Figs. 1 and 2 of Uchiumi (and XPORT spring has a similar operation). As can be seen, when the box lid is open, the spring 12 is contracted.



As seen above, the spring is extended in the closed position and contracted in the open position. The spring will therefore impose a greater force when the box is closed than when open. This is precisely opposite to the recitation in claim 18 where the magnitude of the strut-

asserted force is substantially zero when the box is closed. This disclosure therefore can be considered a teaching against claim 18.

Accordingly, the cited references cannot be considered to disclose, teach or suggest at least claim 18 of the present application.

Conclusion

For at least the reasons set forth above, the independent claims are believed to be allowable. In addition, the dependent claims are believed to be allowable due to their dependence on an allowable base claim and for further features recited therein. The application is believed to be in condition for immediate allowance. If any issues remain outstanding, Applicants invite the Examiner to call the undersigned if it is believed that a telephone interview would expedite the prosecution of the application to an allowance.

The remarks provided are considered sufficient to overcome the rejections, and accordingly, any silence by the undersigned representative with respect to assertions by the Examiner should not be construed as an indication of Applicants' agreement with or acquiescence to the Examiner's position(s). Accordingly, Applicants expressly maintain the right to dispute such assertions, and furthermore to pursue broader subject matter through subsequent amendments, continuation or divisional applications, reexamination or reissue proceedings, and all other available means.

The undersigned representative requests any extension of time that may be deemed necessary to further the prosecution of this application.

The undersigned representative authorizes the Commissioner to charge any additional fees under 37 C.F.R. 1.16 or 1.17 that may be required, or credit any overpayment, to Deposit Account No. 14-1437, referencing Attorney Docket No.: 7298.098.NPUS02.

In order to facilitate the resolution of any issues or questions presented by this paper, the Examiner may directly contact the undersigned by phone to further the discussion.

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